1990

LCMR mitigation plan

Cal R. Fremling
Winona State University

INTER-DEPARTMENT MEMORANDUM

DEPARTMENT: PUBLIC WORKS

TO: Dr. Cal Fremling DATE: January 22, 1990

FROM: Robert J. Bollant, Director of Public Works

SUBJECT: Engineering Costs for Mitigation Plan Construction

The Engineering Costs for Construction Improvements in conjunction with the Mitigation Plans for Dredging Lake Winona and filling Riverbend Industrial Park are:

A. Area I - K-Mart Area:

1.	Preconstruction Engineering	$ 3,303.
2.	Design Plans and Specs	4,404.
3.	Construction Inspection	2,201.
4.	Post Inspection	1,101.
	Total Engineering - Area I	$11,009.

B. Area II - Area East of Huff Street

1.	Preconstruction Engineering	$ 3,116.
2.	Design Plans and Specs	4,155.
3.	Construction Inspection	2,077.
4.	Post Inspection	1,039.
	Total Engineering - Area II	$10,387.
	Total Engineering Areas I and II	$21,396.

Robert J. Bollant
Director of Public Works

RJB:mr

MITIGATION PLAN
FOR
DREDGING LAKE WINONA
AND
RIVERBEND INDUSTRIAL PARK

I Create usable marsh from areas now overrun with Purple Loose Strife.

A) Area I-K-Mart Area

In this area described as the area between K-Mart and Lake Winona and between the Lake Inlet Ditch and Trunk Highway #61, the existing ground elevation is 12 to 18 inches above normal water. The area consists of 4.3 acres of land dedicated to the city as wet lands in conjunction with the K-Mart development and 8.2 acres of city owned land for a total of 12.5 acres.

The plan would consist of excavating the marsh to an elevation of two feet below normal water to an elevation of 644.5. The excavated material will be piled along the perimeter of the site and then within the site as needed. It will be difficult to pile the excavated material greater than 4 to 5 feet in height due to soupy characteristic of the material being excavated. The area excavated in this site will be 6.7 acres and will be planted with native aquatic plants. The flow in the Lake Inlet Ditch is high in nutrients due to the runoff of heavily fertilized lawns. The Lake Inlet Ditch will be blocked off with rip rap and the flow through the 6.7 acre replanted area so that the aquatic plants may take up the nutrients. The flow will enter this area from the Lake Inlet Ditch through twin 54 inch culverts constructed through the bike path which will be raised with a gentle hump over the twin culverts. The flow will reenter Lake Winona through another pair of twin 54 inch culverts. Again the bike path will be raised over the culverts.

The estimated cost of the construction work is:

1.	Excavation w/dragline	32,400 cy	@$ 2.00 =	$64,800
2.	54" RCP	230 LF	@ 100/LF.=	23,000
3.	Concrete apron	8 ea.	@ 500/ea.=	4,000
4.	Bike repair path	200 sy	@ 15/sy =	3,000
5.	Rip Rap	900 cy	@ 17/cy	15,300
			Total cost	$110,100

B) Area II-East Of Huff Street

This area is located between Lake Winona and T.H. 61 East of Huff Street. The total area is 18.9 acres of which 11.4 acres will be excavated to 2 feet below normal water to an elevation of 644.5. The excavated material will be piled around the perimeter of the site and then within the site as needed. An area east of and adjacent to Huff Street will be filled with excavated material and reserved for a handglider landing area.

The 11.4 acre excavated area will be replanted with native aquatic plants. Several storm sewers from T.H. 61 discharge into this area. The aquatic plants will take up the nutrients from the storm water discharge of the T.H. 61 storm sewers. Two 36 inch diameter outlets to Lake Winona will be constructed to connect the recreated marsh with Lake Winona. These two culverts will run under the bike path.

The estimated cost of the construction work is:

1.	Excavation with drag line	54,955 cy	@$ 1.75 =	$96,171
2.	36" RCP	100 LF	@ 50.00 =	5,000
3.	Concrete aprons	4 Ea.	@300.00 =	1,200
4.	Bike path repair	100 sy	@ 15/sy	1,500
			Total cost	$103,871
			Total cost Areas I & II	$213,971

Sincerely,

Robert J. Bollant

Robert J. Bollant
Director of Public Works